

Claim Amendments:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-25 (Canceled).

26. (Currently Amended) A process for continuous deposition of a coating of an HTS tape, comprising:
loading a substrate into a deposition chamber;
translating the substrate through the deposition chamber along a substrate block, the substrate block having gas channels extending therethrough;
injecting gas through the gas channels of the substrate block and onto the substrate; and
depositing a coating material on the substrate as the substrate translates along the substrate block to thereby form the coating, the coating being a buffer layer over which an HTS layer is formed, the buffer layer having a biaxial texture.

Claim 27 (Canceled)

28. (Currently Amended) The process of claim ~~[[27]]~~ 26, wherein the buffer layer has an in-plane texture of not greater than 20 degrees.

29. (Previously Presented) The process of claim 28, wherein the buffer layer has an in-plane texture of not greater than 15 degrees.

30. (Previously Presented) The process of claim 29, wherein the buffer layer has an in-plane texture of not greater than 14 degrees.

31. (Currently Amended) The process of claim ~~[[27]]~~ 26, wherein the buffer layer has an average texture at least about 3 degrees less than a buffer layer formed under identical process

conditions except injection of gas directly into the deposition chamber rather than through the substrate block.

32. (Previously Presented) The process of claim 26, wherein the coating material is generated by vaporizing a material source in the deposition chamber, vaporization being carried out by energizing an energy source.

33. (Previously Presented) The process of claim 32, wherein the energy source is selected from the group consisting of electron beam energy, ion beam energy, and magnetron energy.

34. (Previously Presented) The process of claim 26, wherein the substrate is translated through the deposition chamber by a reel-to-reel system.

35. (Previously Presented) The process of claim 26, wherein the substrate block has a coolant channel, the process further comprising passing a coolant through the coolant channel.

36. (Previously Presented) The process of claim 26, wherein the substrate block and the substrate are in a heat transfer relationship, the substrate block being maintained at a temperature below 50°C.

37. (Previously Presented) The process of claim 26, wherein the gas comprises at least one species from the group consisting of oxygen, nitrogen, argon, and helium.

38. (Previously Presented) The process of claim 37, wherein the gas comprises oxygen.

39. (Previously Presented) The process of claim 26, wherein the gas channels terminate at nozzles, and wherein the gas is flowed through the nozzles such that the gas flows onto a backside of the substrate.

40. (Previously Presented) The process of claim 26, wherein the tape is translated through the deposition chamber at a speed within a range of about 0.4 to 300 meters/hour.

41. (Previously Presented) The process of claim 26, wherein the coating material is selected from the group consisting of MgO and YSZ.

42. (Previously Presented) The process of claim 26, wherein the substrate block has a curved contour along which the substrate translates.

43. (Previously Presented) The process of claim 42, wherein the curved contour has a negative curvature.

44. (Previously Presented) The process of claim 26, wherein the coating material is deposited with the assist of an ion beam.

45. (Previously Presented) The process of claim 26, wherein the substrate block has multiple rows of gas channels.

46. (Previously Presented) The process of claim 26, wherein the substrate comprises a nickel alloy.